PB-226 372

POLLUTION OF WATERS OF PUGET SOUND, STRAIT OF JUAN DE FUCA AND THEIR TRIBUTARIES AND ESTUARIES

Technical Coordinating Committee
Olympia, Washington

5 March 1962

DISTRIBUTED BY:

NTIS

National Technical Information Service
U. S. DEPARTMENT OF COMMERCE
5285 Port Royal Road, Springfield Va. 22151

PB 226 372

Library
Environmental Protection Agency
Region VII

PROGRESS REPORT NO. 1

of the

TECHNICAL COORDINATING COMMITTEE

considering

Pollution of Waters of Puget Sound, Strait of Juan de Fuca and their Tributaries and Estuaries

March 5, 1962

U. S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE
Public Health Service
Region IX, Portland, Oregon

STATE OF WASHINGTON

Pollution Control Commission

Reproduced by
NATIONAL TECHNICAL
INFORMATION SERVICE
U S Department of Commerce
Springfield VA 22151

INTRODUCTION

The wise conservation, development, and use of the water resources of the State of Washington and throughout the Nation are important to the health and economic well-being of people everywhere. The prevention and control of water pollution ranks high in importance among the problems confronting Federal, State, and local governments, industry, and citizens generally in their efforts to protect this vital state and national resource.

In an effort to seek a solution to a long-standing and difficult problem in the State of Washington, Governor Albert D. Rosellini, in a letter dated November 22, 1961, requested Secretary Abraham Ribicoff of the U. S. Department of Health, Education, and Welfare to bring to bear on this difficult problem that portion of the Federal Water Pollution Control Act dealing with enforcement measures for the control of the pollution of interstate or navigable waters. This assistance was in addition to other aid already provided the State of Washington under that Act, including financial grants to Washington cities to assist them in the construction of municipal sewage treatment works; financial grants to the State of Washington Pollution Control Commission to strengthen its operations; research and training grants to universities in Washington as well as to other public and private agencies and individuals on matters dealing with the prevention and control of water pollution; and the establishment of water quality monitoring stations to collect data on the chemical, physical and biological quality of water within the State of Washington.

As a result of this request, a conference was held on January 16 and 17, 1962, at Olympia, Washington, between officials of the U. S. Department of Health, Education, and Welfare, and the Washington Pollution Control Commission, in accordance with procedures outlined under Sec. 8, the enforcement section, of the Federal Water Pollution Control Act. This initial conference was concerned with the pollution problems in the waters of Puget Sound, the Strait of Juan de Fuca, and their navigable tributaries and estuaries. A second conference, to be concerned with the waters of the Upper Columbia River and its navigable tributaries within the State of Washington is proposed for Spokane, Washington, about May 1962.

CONCLUSIONS OF CONFERENCE

The conference met for two days, January 16 and 17. Following the presentation of statements by state officials, industrial representatives, conservation groups, fish and shellfish industry representatives, and others comprising over seven hundred pages of direct statements and attached materials, the conferees, composed of representatives of the Washington State Pollution Control Commission and the Division of Water Supply and Pollution Control of the Public Health Service in the U. S.

Department of Health, Education, and Welfare, agreed that: the waters of Puget Sound, Strait of Juan de Fuca and their navigable tributaries and estuaries are waters subject to the jurisdiction of the Federal Water Pollution Control Act; and that pollution of these waters exists as a result of waste discharges coming from various municipal and industrial sources in the Puget Sound and Strait of Juan de Fuca area, and notably from the pulp and paper industry.

The conferees recognized the excellent progress that had been made by many industries in the State of Washington in controlling pollution. They also recognized that the permit system of the State of Washington is a reasonable method of controlling pollution in the State. The conferees concluded that measures taken to date by some of those contributing pollution to the waters of Puget Sound and the Strait of Juan de Fuca area had not been adequate or sufficient to control water pollution, and that delays had been encountered in taking corrective actions by those contributing pollution.

With respect to the seven pulp and paper mills contributing the largest percentage of the total pollution, the waste discharge permits issued by the Washington Pollution Control Commission prior to the conference had established January 1, 1962, as the date by which the mills could propose an alternate plan to achieve the pollution-control goals established by the permits. The Commission had also established March 1, 1962, as the date by which the mills were to submit engineering plans to carry out proposals to control pollution. In view of the fact that the January 1, 1962, date had passed, the conferees agreed to extend to July 1, 1962, the date by which alternate plans for the control of pollution were to be submitted by the mills to the Washington Pollution Control Commission; and, further, that engineering plans for control of pollution were to be submitted to and approved by the Washington Pollution Control Commission not later than January 1, 1963. Thus, the conferees' action in this regard was to the effect of giving the pulp and paper mills additional time: six more months to submit alternate plans and ten more months to submit engineering plans, to meet the requirements established by the Pollution Control Commission under State of Washington law.

In addition, the conferees concluded that the Washington Pollution Control Commission should proceed under State of Washington law to develop a plan for controlling pollution from all remaining municipal, industrial, and other sources of pollution in the Puget Sound and Strait of Juan de Fuca area to prevent pollution from interfering with public health or water uses. Finally, the conferees agreed to the development of a joint action program between the parties of the conference to carry out the conclusions and recommendations of the conference.

PURPOSE OF THE TECHNICAL COORDINATING COMMITTEE

The purpose of the Technical Coordinating Committee is to provide the necessary scientific, legal, and other counsel and direction to the Washington Pollution Control Commission and the U. S. Public Health Service

in their joint efforts to bring to a successful conclusion the recommendations of the conferees. These efforts will include laboratory studies, field investigations and other scientific and related studies to support further the investigations and reports of the Washington Pollution Control Commission that have provided the basis for the actions taken by the State of Washington to control pollution in the waters of Puget Sound and the Strait of Juan de Fuca and their tributaries and estuaries.

ORGANIZATION OF THE COMMITTEE

The Technical Coordinating Committee is composed of representatives from State and Federal agencies having scientific or other interests and responsibilities involving water uses affected by the discharge of pollutants into the waters under consideration. The Committee includes representation from the Washington Pollution Control Commission, the Washington Department of Health, the Washington Department of Fisheries, the Washington Department of Game, the Washington Attorney General's Office, the U.S. Fish and Wildlife Service and the U.S.Department of Health, Education, and Welfare. Committee recommendations are to be directed to Mr. Earl Coe, Chairman of the Washington Pollution Control Commission, and Director of the Washington State Department of Conservation, Olympia, Washington; and to Mr. Leonard B. Dworsky, Officer-in-Charge, Pacific Northwest Water Supply and Pollution Control Program of the Department of Health,Education, and Welfare, Portland, Oregon. Technical direction of the Committee's activities will be guided by Mr. W.W.Towne, Deputy Director of the Pacific Northwest Water Supply and Pollution Control Program, and Mr. Alfred T. Neale, Acting Director of the Washington Pollution Control Commission. The Secretary of the Committee will be Dr. A. F. Bartsch, Chief of Enforcement Activities of the Pacific Northwest Water Supply and Pollution Control Program, Portland, Oregon.

TENTATIVE STUDY PROGRAM

The Committee has met three times since the January 16 conference. Plans are under way to initiate studies and investigations along the following lines as a result of the committee's recommendations: engineering surveys relating to the sources of municipal and industrial pollution; related biological and chemical studies of pollutants and the waters into which the pollutants are discharged; oceanographic studies concerned with the dilution and diffusion of pollutants; and economic and legal investigations related to the over-all pollution problem.

ACTIONS TAKEN TO DATE

Actions taken to date include the organization of the Coordinating Committee; the determination of the general outline of the Committee's study and investigation program; and the assignment of one of the Public Health Service's chief scientists to provide the on-the-ground coordination to the joint State-Federal investigations program. Dr. A. F. Bartsch, currently Deputy Chief of the U. S. Public Health Service's national research

program at the Robert A. Taft Sanitary Engineering Center in Cincinnati, Ohio, has been assigned to this coordinating task. A top technical staff to support the joint investigation program is being assigned to the Portland office of the Public Health Service to provide for early initiation of the contemplated investigation and study programs. Certain phases of the oceanographic and biological studies are already under way. Contract studies dealing with the economy of the Puget Sound area are scheduled to start at an early date.

BACKGROUND INFORMATION

At the conference held on January 16 and 17, 1962, various points of view on the water pollution problem in the Puget Sound-Strait of Juan de Fuca area were presented. These included the viewpoints of those contributing to this pollution problem as well as of those concerned about the effects of using polluted waters or waters that may be subject to pollution. These viewpoints, comprising over seven hundred pages of testimony and attached material, are contained in the record of the conference.

As a result of the conference and subsequent public discussions, a number of questions have been raised. The following information is presented as background for the participants on the Technical Coordinating Committee and for the many others concerned.

Federal Water Pollution Control Act

A half century of national concern about the problem of water pollution resulted in the passage of a comprehensive water pollution control act by the Congress in 1948. That Act for the first time assigned enforcement responsibilities to the Federal Government on matters of interstate pollution. The 1956 Amendments to the Federal Act clarified and simplified the enforcement section. Among other things, and at the request of the States, the 1956 Amendment provided that conferences be held by representatives of the Federal Government and the State or States involved in cases of interstate pollution, for the purpose of encouraging public presentations and discussions on the pollution problems in question. It was anticipated that, as a result of such conferences, solutions could be developed without reliance upon further Federal enforcement action. Thus, conferences are aimed at supporting and encouraging State and local action to control pollution, as an initial step.

Purpose of the Conference.

The word "conference" is used in a formal sense in Sec. 8 of the Federal Water Pollution Control Act. By definition, it is a conference between representatives of the Department of Health, Education, and Welfare and the States concerned. At the conference held at Olympia on January 16 and 17, the official conferees were the representatives of the U.S. Department of Health, Education, and Welfare and the representatives of the State of Washington.

The Federal Act provides that the State concerned can invite such persons as it desires to the conference. Under this provision the Washington Pollution Control Commission invited, for their voluntary acceptance, fifty-eight individuals, groups and agencies for the purpose of allowing them to make any statement they so desired to the conferees. Invitations were extended by the Commission to twelve pulp and paper mills; thirteen industries other than pulp and paper mills; the mayors of ten cities; the health officers of two major county health departments; three major sportsmen's councils in the State of Washington; three Federal departments; and eight fisheries groups including oyster growers, salmon groups and the gill netters association. Others invited included one State Representative; representatives of the Association of Washington Cities, the Seattle Harbor Advisory Committee, the Seattle Metropolitan Council, and the Northwest Pulp and Paper Association; and two University of Washington professors. Supplementing the direct letters of invitation, three hundred news releases about the conference were distributed to all daily and weekly newspapers in the State, to radio and television stations, to five labor unions, and to thirteen members of the State legislature.

In response to these invitations, voluntary presentations were made to the conferees during the two-day session by the Washington Pollution Control Commission, the State Departments of Fisheries, Game, Health, Commerce, and the Washington State Parks and Recreation Commission; the U. S. Fish and Wildlife Service and the U. S. Corps of Engineers; one sportsmen's council, one individual, one State Legislator, the Seattle Metropolitan Council, five oyster growers associations, two labor unions, the Northwest Pulp and Paper Association, and four pulp and paper mills.

Summary of the Conference

The enforcement section of the Federal Water Pollution Control Act provides that, following the voluntary presentations, a summary of the conference discussions be prepared. The law provides that this summary include information on the occurrence of pollution of interstate and navigable waters subject to abatement under the Act; the adequacy of measures taken toward the abatement of pollution; and information about the nature of the delays, if any, being encountered in abating the pollution of waters under consideration.

At the conclusion of the two-day conference, and after listening to the presentations of the various points of view, the chairman summarized the conference discussions. The representatives of the Washington Pollution Control Commission and the U. S. Department of Health, Education, and Welfare, as conferees, were in full agreement that pollution of interstate and navigable waters subject to abatement under the Water Pollution Control Act was occurring; that measures being taken toward abatement of the occurring pollution were not adequate; and that delays were being encountered in abating the pollution.

Federal Policies on Enforcement Measures Against Pollution of Interstate or Navigable Waters

In order to meet the challenge of the rising tide of pollution created by growing cities and industries, the Congress authorized, in addition to research, technical investigations and studies, financial aid, and other programs aimed at strengthening State pollution-control programs, Federal enforcement in cases of pollution of interstate or navigable waters which endangers the health or welfare of any persons.

There have been fifteen conferences under this enforcement program held in the United States to date, with two scheduled for the near future. In excess of 500 cities and industries have been directly involved in these conferences. The cost of construction of pollution abatement facilities that have resulted directly from these conferences exceeds $500 million. In all cases, cities and industries have complied with requirements specified in the several conferences. Except for one situation, no cases have reached the Court stage.

Thus, while the Olympia conference was the first held under the 1961 Amendments to the Federal Water Pollution Control Act on pollution problems within one State, the conference technique has been widely used during the past five years. The Chief of the Enforcement Branch of the Federal Pollution Control Program has consistently stated that the success of the enforcement phase of the Federal water pollution control program will be counted, not on the basis of how many cases are won in court, but on how many solutions can be reached following the public presentation of facts in a conference such as that held in Olympia.

The principal policy followed by the Federal Government is to strengthen State water pollution control programs in order that problems can be resolved or otherwise enforced at the State level without Federal action. The Olympia conference had this as its purpose. As a result of this conference, the Secretary of the Department of Health, Education, and Welfare has recommended to the Washington Pollution Control Commission that it undertake whatever steps may be necessary to bring about remedial action in this situation. It is the hope of the Federal Government that, based upon the presentation of data at the conference, those creating pollution of the waters of Puget Sound, the Strait of Juan de Fuca and their navigable tributaries and estuaries, will be able to arrive at a satisfactory solution of this problem with the State of Washington's Pollution Control Commission.

It is to be expected that, in working toward a solution to this problem, differing viewpoints will result in differing conclusions. The Washington Pollution Control Commission, responsible for carrying out the law to safeguard the State's water resources, on the evidence of extensive studies and surveys over many years has concluded that pollution exists in Puget Sound and the Strait of Juan de Fuca area. Based on this conclusion, it

is seeking to control this pollution, bringing into use applicable State and Federal laws.

The Pacific Northwest office of the Water Supply and Pollution Control Program of the U.S. Public Health Service has worked closely on pollution control matters with the Washington Pollution Control Commission since 1949. It has reviewed and considered the State's activities and has been aware of its policies, operations and programs. The U. S. Public Health Service is acting in support of the State of Washington on this situation.

As a result of the conference, field survey and investigation work in the Pacific Northwest office of the U. S. Public Health Service is being expanded for the purpose of developing cooperative studies with the Washington Pollution Control Commission to seek additional up-to-date information in order that both the Washington Pollution Control Commission and the Federal Government can be prepared for such future eventualities as may be necessary to carry out both State and Federal laws.

Seven pulp and paper mills in Puget Sound and the Strait of Juan de Fuca area are contesting the Washington Pollution Control Commission's order requiring the mills to control pollution created by them. The industries have recorded in the conference that they are dumping polluting substances into the area's waters. However, the mills disagree with the Washington Pollution Control Commission as to the effect of this pollution.

This is not an unusual situation. Experience indicates, however, that reasonable solutions to such differences can be found. The excellent pollution-control effort already made by industry in the State of Washington and throughout many parts of the country leads to the conclusion that agreement can be reached to have both a strong economy and the kind of clean water the Pacific Northwest deserves to have for all purposes.

Basis for the State of Washington's Request for Assistance from the Federal Government

The State of Washington's request for assistance in preventing and controlling the pollution of the waters of Puget Sound and the Strait of Juan de Fuca and their navigable tributaries and estuaries was the result of a long and inconclusive effort by the State to bring about the control of pollution resulting from the discharges from seven pulp and paper mills into these waters.

The conference records that, as early as 1940, efforts were undertaken by the State authorities to seek an equitable solution to the pulp and paper industry's waste disposal problem. The twenty years of unsuccessful effort and the costs and technical difficulties resulting from the vigorous opposition by the pulp and paper mills to the pollution control requirements in the waste discharge permits are the primary reasons for the State's request for assistance from the Federal Government.

Another important reason for the State's requesting Federal assistance results from the basic challenge presented by these pulp and paper mills to the ability of the State to conserve and safeguard all of its waters against pollution. The pulp and paper mills are seeking a fundamental change in State policy which, if successful, would result in largely destroying the effectiveness of the present and otherwise excellent State of Washington pollution control program. This change in policy would subject waters throughout the State to a high degree of pollution by allowing them to be used for the dilution and dispersal of untreated or inadequately treated sewage and industrial waste effluents.

The State's request for assistance from the Federal water pollution control program is in accord with the long-standing policy of Federal assistance to strengthen State and local pollution control programs. Such assistance in the form of research and technical services has been provided for over a half-century. More recently, the Federal Government has been providing financial assistance to cities to construct municipal sewage treatment works, and financial assistance to State water pollution control agencies to maintain strong State programs.

Policies of the State of Washington

A number of questions have been raised, primarily by some in the pulp and paper industry, concerning water quality standards and their application in the Washington Pollution Control Commission's program.

Water quality standards are used in a wide variety of ways in their application to water pollution control programs in the various States throughout the country. A number of eastern States use a stream classification program and specific numerical values for various aspects of water quality to assist in determining treatment requirements for river basins and lakes or portions of them. In a few States, the State legislature, by legal mandate, establishes these classifications and quality requirements. In general, these methods are in use by States in which pollution has already taken a high toll of water quality. States whose rivers, lakes and ocean frontages are highly polluted have found it useful to use these devices as a means of attempting to reclaim, upgrade and revive their water resources from the highly polluted conditions resulting from inadequate control efforts over many years.

Other States have developed effective programs by using requirements which specify the amount of wastes that can be discharged by each industry or other waste-producing operation to achieve generally stated, rather than specific, numerical water quality values. This is accomplished by the establishment of effluent requirements.

The State of Washington has selected, as its method of operation, the establishment of controls over the effluents discharged by waste producers under general water quality values, rather than the establishment of specific numbers for each quality factor along with a scheme for the classification of waters.

The record the State has achieved in the course of its operations under this program shows that this has been a highly successful system. The conference records show that of 532 industrial establishments subject to permit regulations in the Puget Sound-Strait of Juan de Fuca area, 493 industries are in compliance with the effluent requirements established by the State--an average compliance of 93 percent. The percent of compliance for each of the types of industries in this area is shown in the following table.

INDUSTRIAL STATUS
PUGET SOUND DRAINAGE BASINS

Industry or Type of Waste	Number of Plants	Temporary Permits	Permanent Permits	Percent Compliance
Milk	49	1	48	98
Oil and Chemical	107	7	102	95
Fruit and Vegetable	47	2	45	96
Lumber	69	1	68	98
Meat, Poultry and Rendering	73	6	67	92
Sand, Gravel, and Allied Industries	56	4	52	93
Fish Processing	66	0	66	100
Pulp and Paper	22	13	9	41
Miscellaneous	43	7	36	84
Total	532	41	493	93 (avg.)

This record suggests that industries, in general, have not found the manner in which the State of Washington applies water quality standards to be an unsatisfactory procedure.

Pollution problems are generally comparable throughout the Pacific Northwest region. Because of this, the Northwest States (comprising Washington, Oregon, Idaho, Montana, and Alaska) with the cooperation of the Canadian Department of National Health and Welfare, the British Columbia Provincial Department of Health and Welfare, and the U. S. Department of Health, Education, and Welfare, have formed a Pacific Northwest Pollution Control Council.

Ten years ago, the Council, being fully aware of the generally high quality of the waters of the Pacific Northwest, except where control efforts had not yet been fully implemented, made the following statement in their report on Water Quality Objectives:

> "The Pacific Northwest is at present in an enviable position as regards its natural resources and potential development when compared with many other areas of this country. This is especially true of natural waters which are admittedly one of the area's greatest assets. Water is so definitely tied in with the health, welfare, and pleasure of citizens, and with the whole economic structure of the area as to make high water quality objectives not only desirable, but imperative.
>
> "A similar position was held by many areas of this country during the past years. The development of these areas without regard to the implications of pollution has resulted in many cases in the loss of the waterways and streams for any use except the disposal of sewage and wastes. The water essential to growth and to effective living has been dissipated by carelessness and lack of foresight. Water is a factor which can well limit the development of all areas of the country, and, therefore, water pollution control in the Pacific Northwest becomes a conservation and prevention program. Certainly we in the Pacific Northwest should profit by the mistakes of others and establish high objectives with judgment and especially with a view to future development."

The States of Montana and Idaho have used the Pacific Northwest Council's objectives in developing their own water quality requirements. The States of Oregon and Washington also have aimed their water quality programs at the goal outlined in the above statement.

Water quality standards have been adopted by the Washington Pollution Control Commission and are to be found in numbered section .04.210 of the Standards and Rules and Regulations of the State of Washington. Copies of these standards are available, on request, to all interested persons. These standards are considered to be the best approach to water pollution control in the State of Washington, and the use of such standards is in keeping with widespread practice in the United States. The State of Washington and the U. S. Department of Health, Education, and Welfare agree on the merits of the present method of using standards and the present program of the Washington Pollution Control Commission.

The Effect of Adopting Other Types of Water Quality Standards

The suggestion has been made by various pulp and paper industry representatives that specific numerical values be established for each water quality goal to be sought by the State of Washington's Pollution Control Commission. The effect of establishing such specific requirements would be to permit large quantities of pollutants to be added to the waters of the State of Washington. Such a program, of allowing the water resources of the State to be used to dilute and disperse pollution without requiring adequate treatment or otherwise without being controlled by permits issued

by the Commission, would despoil the quality of the State's waters, and would seriously affect its economic development.

The policy guiding the Department of Health, Education, and Welfare on this matter was stated by the Federal Water Pollution Control Advisory Board, appointed by the President to advise on these matters of national importance. That Board in its February 3, 1961, report to the Surgeon General of the U. S. Department of Health, Education, and Welfare, stated that the goal of pollution abatement is as follows:

> "The goal of pollution abatement is to protect and enhance the capacity of the water resource to serve the widest possible range of human needs. This goal can be approached only by accepting the positive policy of keeping waters as clean as possible, as opposed to the negative policy of attempting to use the full capacity of water for waste assimilation."

State Requirements For Control of Pulp and Paper Mill Pollution

The conference record includes copies of the specific requirements of the State of Washington with respect to each of the seven pulp and paper mills in the area in question. These permits and their requirements were designed by the State with full consideration of the individual factors present at each of the plants, in consideration of the location of the plant and considering the reasonable and effective remedies available. The seven pulp and paper mills produce, among other things, an organic waste which is equivalent to that produced by over eight million people each day. The State's requirements provide for removal of approximately six million of this eight million waste load. The requirements will result in the continued discharge of two million of this total eight million waste load to the waters of Puget Sound and the Strait of Juan de Fuca. The specific way in which the reduction of wastes is to be accomplished is a determination to be left with the individual mills.

Costs to the Pulp and Paper Mills for Meeting State Requirements

The record of the conference shows that a representative of the pulp and paper industry stated initially that $30 million had been spent by the seven pulp and paper mills to control pollution to date. On questioning, the representative further stated that only 40 percent or about $12 million was actually spent to control polluting wastes and that the balance, $18 million, was spent in improving plant operations, in reclaiming fibers or in otherwise improving the efficiency of the various mills. These latter costs usually bring about savings in raw materials and in mill operations. While they do reduce the amount of pollution produced by the mills, these are efficiencies that industrial establishments would normally desire to undertake under any circumstances in order to avoid unnecessary monetary losses.

During the conference, a representative of one company, making a statement on behalf of three mills located at Everett, Washington, indicated that it would cost the three mills $35 million to meet the requirements established by the Washington Pollution Control Commission with respect to the discharge of sulfite waste liquor.

A recent report by the Acting Director of the Washington Pollution Control Commission notes that, "A careful review indicates that major expenditures involving waste liquor recoveries are involved at four mills, and available conversion cost data indicates that 500 ton mills have been converted for considerably less than $10,000,000. For some of the smaller mills the preliminary contacts indicate expenditures of a quarter of a million dollars or less, a number of which will pay out within reasonable lengths of time."

There are obviously differences in estimating the cost of the control works needed by the seven pulp and paper mills in the Puget Sound and Strait of Juan de Fuca area. A financial analysis to support the cost estimates by representatives of the pulp and paper industry cannot be made directly by the Washington Pollution Control Commission or the U.S.Department of Health, Education, and Welfare. The conferees have under way economic studies which will help to indicate whether the costs stated by the representatives of the pulp and paper industry are, in fact, within the range of costs generally associated for needed control efforts in other comparable situations.

These cost figures stated by representatives of the pulp and paper industry have been used to encourage the idea that threats to close the mills have been made by the pollution control agencies. Neither the Washington Pollution Control Commission nor the Federal Government has ever threatened, suggested, or deemed it necessary to consider closing any of the seven pulp and paper mills involved in this situation. It has been the consistent policy of both the State and Federal agencies to seek an equitable solution to the pollution problem encountered in the Puget Sound and Strait of Juan de Fuca area. Broad experience shows that industry and clean water both can exist to produce benefits for all the people.

Federal Investment in the Puget Sound and Strait of Juan de Fuca Area

The U. S. Fish and Wildlife Service reported to the conference that it spends annually in Puget Sound $300,000 for research, hatchery operations, technological developments, and the collection of statistics. It stated that Federal fisheries investments in the region are valued at two and a half million dollars but that this investment of Federal funds is by no means a full measure of the great importance of fish and wildlife resources of this area.

The Seattle District office of the U. S. Army Corps of Engineers reported to the conference that the Federal Government has a substantial investment

in the water resources of the Puget Sound area: for multi-purpose projects $80 million; for navigation projects over $20 million; for flood control projects over $2 million; and for the maintenance of channels, navigation projects and flood control projects, nearly $6 million annually. For projects to be constructed in 1962 and 1963, there is a contemplated further expenditure of $4 million, and, finally, the cost of new recommended projects amounts to $43 million.

This large investment is a partial indication of the wide Federal interest in the conservation, development and use of the water resources of Puget Sound.

Local Expenditures for Pollution Control

During the past five years, citizens in cities and towns in the State of Washington have voluntarily spent nearly $15 million to construct municipal sewage treatment works to prevent the pollution of Washington's lakes, streams, bays and other waters. The Federal Government has provided $2,750,000 to share with localities the costs of these treatment works. In addition, the people of metropolitan Seattle have approved a $130 million program over the next ten years to prevent and control the pollution of the waters in and adjacent to the Seattle Metropolitan Area. The Seattle Metropolitan Council has already authorized the sale of $125 million in bonds, the first $20 million of which was sold in June of 1961.

Conclusion

The conference held in Olympia, January 16-17, 1962, between the Washington Pollution Control Commission and the U. S. Department of Health, Education, and Welfare produced for public view and discussion a large amount of data on the pollution problems in Puget Sound, the Strait of Juan de Fuca and their navigable tributaries and estuaries. The data presented by individual citizens, industrial establishments and associations, government agencies, conservation groups, fish and shellfish industry individuals and associations, recreation interests, and others was completely voluntary. Expected differences of opinion were heard and recorded. The conference was an initial step, established by the Congress at the request of the States, to help in seeking solutions to the more difficult problems of pollution on interstate and navigable waters. The Washington Pollution Control Commission and the U.S.Department of Health, Education, and Welfare will energetically seek an equitable solution to this pollution problem. Based on experience elsewhere, there is no reason to doubt that such a solution can be reached.

The record of the conference is contained in two volumes and a volume of appendix material. Copies of this record are available to those desiring them by writing the Washington Pollution Control Commission, Olympia, Washington.

AIRPLANE VIEWS

PORT ANGELES

EVERETT